IMPROVED BLOCK ENTROPY CODING IN EMBEDDED BLOCK CODING WITH OPTIMIZED TRUNCATION IMAGE COMPRESSION

ABSTRACT

Embedded block entropy coding with optimized truncation is useful for image compression schemes in conjunction, for example, with a Wavelet transform, so as to form a bit-stream which can be stored or transmitted with increased efficiency. In the arithmetic coding phase, several opportunities exist for minimizing complexity and improving compression and computational performance as compared to existing systems. One method involves bypassing the arithmetic coding procedure for certain lower significance bit-planes of each code-block. Then, the raw binary digits from these bit-planes can be interleaved into the arithmetically coded bit-stream. As a result, both the average number of arithmetically coded symbols and the maximum number of coding passes per code-block can be significantly reduced.